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VESSEL PROPELLING MEANS

Filed Oct. 19, 1929

Fig. 1.

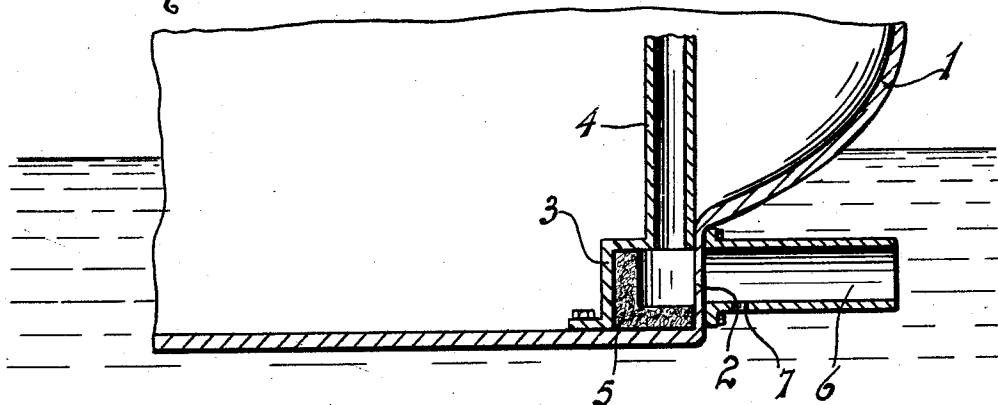


Fig. 2.

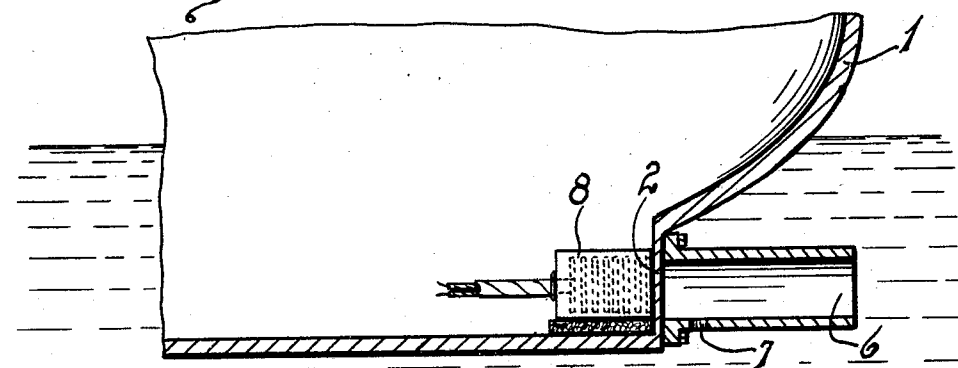


Fig. 3.

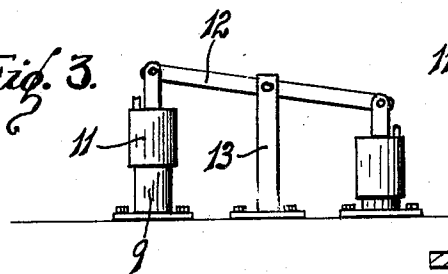
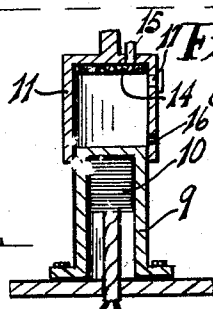


Fig. 4.



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VESSEL-PROPELLING MEANS

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This invention relates to a novel means for propelling vessels which is inexpensive, and which has no wearing parts to get out of order.

5 An object of my invention is to provide a vessel propelling means which can be readily installed upon any of the present, well-known types of vessels, and which is simple in construction and is easy to operate.

10 A further object of my invention is to provide a means for heating a plate or the like to a high temperature, the plate being in contact with the water and then directing the energy which is created by the vapors formed in the water, to propel the vessel.

15 Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

20 Still another object is to provide a novel means for utilizing energy created by contacting water with a heated area, said energy being applied to reciprocating motion.

In the drawing—

25 Figure 1 is a fragmentary, longitudinal, sectional view of a vessel with my propelling means shown thereon.

30 Figure 2 is a fragmentary, longitudinal, sectional view of a vessel with another, slightly modified form of my propelling means shown thereon.

Figure 3 is a side elevation of a further adaption of my propelling means.

35 Figure 4 is a fragmentary, longitudinal, sectional view of one of the power units shown in Figure 3.

Referring more particularly to the drawing, the numeral 1 indicates the hull of a vessel of any suitable design or character. A plate 2 is provided below the water line of the vessel and this plate is heated to a high temperature by a means to be subsequently described. The plate 2 can be made of a suitable non-corrosive metal, or other substances which will not be materially affected by the high temperature.

40 As shown in Figure 1 the plate 2 is heated by a chamber 3 within the hull. The chamber 3 is fed from a stack 4, and suitable material is fed into the chamber, such as coal, or oil-

coke or any other solid, gas or liquid, or by an oxy-acetylene or oxy-aluminum flame. In fact any combustible material may be used. The chamber 3 is insulated on three sides by suitable insulation 5, but the sides towards the plate 2 is left uninsulated so that the full effect of the heat is expanded against the plate.

I have found that when water comes in contact with a highly heated surface, that there is a rapid accumulation of steam which will exert considerable force. The steam formed adjacent to the plate 2 will expand rapidly and will consequently exert a forward propelling force against the hull of the vessel. For greater efficiency I may provide an outwardly extending tube 6 which is secured to the hull 1 on the outside thereof, and is positioned over the plates.

60 An opening or openings 7 is provided in the tube 6 adjacent the plate 2 to permit the water to enter the tube. As previously stated, the water coming in contact with the heated plate 2 will form steam which will be expanded through the tube 6 and will propel the vessel. I do not wish to confine myself to the presently directed means for bringing the water in contact with the heating area, for other means may also be used within the scope of my invention.

65 As shown in Figure 2, an electrically heating element 8 is positioned adjacent to the plate 2 in order to heat said plate. In certain instances, particularly with the electric heating means it may be found desirable to eliminate the plate 2 and place the heating element directly in contact with the water which enters the tube 6.

70 In Figures 3—4 I have shown my propelling means applied to a reciprocating motion and this arrangement comprises a plunger 9 which is stationary and is heated by any of the means previously stated and is here shown as an electrical heating unit 10. A cylinder 11 fits over the plunger 9 and is pivotally connected to a beam 12 which is pivotally mounted upon a standard 13. A water retaining element 14 is provided inside of the cylinder 11 and is fed through a pipe, hose or the like 15. The element 14 is saturated with water.

and when it comes in contact with the top of the heated plunger 9, steam will be formed and will drive the cylinder 11 upwardly. A vent port 16 is provided in the cylinder to permit escape of steam after the cylinder has moved to the top of its stroke.

A port 17 is provided adjacent the upper end of the cylinder 11, the last named port being normally closed, but it may be opened when it is desired to stop the cylinder.

Having described my invention, I claim:

1. A vessel propelling means comprising a plate below the level of the water, and means to heat said plate to a high temperature, a face of said plate being exposed to the water whereby a propelling effect is obtained.

2. A vessel propelling means comprising a plate below the level of the water, and means to heat said plate to a high temperature and a tube on the outside of the vessel extending from said plate, the steam generated by contact of the water with the plate, being expanded through the tube.

3. A vessel propelling means comprising a plate in the hull of the vessel, a chamber inside of the vessel, heating means in the chamber whereby the plate is heated to a high temperature, a tube secured to the hull of the vessel and positioned on the outside of the vessel, said tube having water intake ports therein adjacent said plate.

4. A vessel propelling means comprising a plate secured to the vessel and positioned below the level of the water, a chamber within the hull, a feed stack extending to the chamber through which fuel is fed to heat said plate, the outer face of said plate being exposed to the water whereby a propelling effect is obtained.

5. A vessel propelling means comprising a plate positioned in the vessel below the level of the water, an electrical heating element adjacent said plate, said heating element being adapted to raise the temperature of the plate to a high degree, the outer face of said plate being exposed to the water whereby a propelling effect is obtained.

In testimony whereof, I affix my signature.

ALBERT L. WIDDIS.